CENG491 Configuration Management Report

HANDE

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1. Introduction

1.1. Purpose of Configuration Management Plan

The main aim of this document is to define and explain clearly the Configuration Management Plan for AAC for Android. This CM plan will briefly describe how the configuration process is done the technical components are used. In addition to that CM will demonstrate how the members of the team contribute to the project, which responsibilities are shared and who has in the configuration process.

1.2. Scope of the Document

The scope of this document consists of a high level Configuration Management Plan for AAC for Android, the configuration processes that are being used, the explicit schedule and the organization and the division of labor of the team members. In this document, the procedures that need to be followed in case of a modification also are provided.

1.3. Definitions, Acronyms and Abbreviations

AAC	Augmentative and Alternative Communication
CCB	Configuration Control Board
CCT	Configuration Control Team
CM	Configuration Management
CMP	Configuration Management Plan
CMT	Configuration Management Team
RCT	Release Control Team
SCR	Software Change Request
SDT	Software Development Team
TT	Testing Team

1.4. Document References

IEEE Standard for Software Configuration Management Plans – IEEE Std 828 – 1998

1.5. Document Overview

In the first part namely "Introduction" part, is about a brief explanation what the document is consisted of and some definitions which are given. The organization of group HANDE, the responsibilities of each member of the team and the tools used in the project are mentioned. In the second part, it is "The Organizations CM Framework". In the third section, "Configuration Management Process", the identification, CM and control, configuration status accounting and auditing of the project will be explained. Fourth part consists of the project schedule and CM milestones. Detailed information about project resources will be given in part 5. Finally the document will be concluded with the methods for optimizing Configuration Management Plan.

2. The Organizations CM Framework

2.1. Organization

All the members of Hande contribute to CM to develop a successful project and have equal rights during the project management process. Each team member is responsible for every steps of our product. The teams that are required to manage the process and the team members that are responsible for related teams are as follows;

Software Development Team (SDT): All team members
Testing Team (TT): Hamide Hande Keskiner, Kadir Eray Doğanlar
Configuration Management Team (CMT) Doğuş Küçükgöde, Baha Tosun
Change Control Team (CCT): Doğuş Küçükgöde, Hamide Hande Keskiner
Release Control Team (RCT): Baha Tosun, Kadir Eray Doğanlar

2.1.1. Software Development Team

This team is mainly responsible for implementing the modules and making the changes that are requested by TT. Another duty of this team is releasing updates of the project.

2.1.2. Testing Team

The main responsibility of TT is testing and debugging the project. The other responsibility of this team is to send SCRs and to give feedback to SDT when changing required.

2.1.3. Configuration Management Team

The main responsibility of this team organizing CM. CMP is kept up-to-date by this group.

2.1.4. Change Control Team

The main responsibility of this team is accepting or rejecting SCR. This team supervises all other teams.

2.1.5. Release Control Team

The main responsibility of this team is controlling the current and next versions and also giving feedback to SDT about the current release.

2.2. Responsibilities

Although every individual member takes part in different teams, they all are member of SDT. That means all the members of our group take part in CCB. Therefore some responsibilities are taken by all the members. These responsibilities are as follows;

- Commenting about changes before committing resources through SVN.
- Emailing every group member about SCRs.
- Giving feedback about SCRs.
- Following the pre-defined CM schedule

2.3. Tools and Infrastructure

Eclipse Ide: It is compatible with Java programming language and Android Framework. Installing android plug-in in eclipse allows us to develop our project.

Motodev: It is compatible with Java programming language and Android Framework too. This is an alternative IDE for developing our project. We don't have to install android plug-in in motodev because it has already been installed this feature.

SVN: For the version control part of our project we will use SVN (subversion).SVN is a version-control system. Developers use SVN to maintain current and historical versions of files such as source code, web pages and documentation. SVN will also satisfy the mobility of the project on different operating systems.

Trac: Trac is an open source, web-based project management and bug-tracking tool. It also serves as a web interface to a revision control system, in our case SVN.

Group Hande Web Page: All documents, project progress, latest news can be seen via our web page.

3. Configuration Management Process

3.1. Identification

Source code, data and documentation are configuration items of our project, there will be detailed explanation about them in the following sections.

3.1.1. Source Code

According to our design, we can divide source code in two main parts; TTS and GUI. TTS is the more difficult part than GUI since it includes signal processing and more complex algorithms. For this reason, we have to make some changes according to our research frequently. GUIs the user

interface part, whose design and source code has changed in time according to the new facilities and sections added to the project or when conflict occurs with TTS. With the decisions of all team members, the design of the user interface's design and source code may change again, if improvement is necessary.

The source code files are kept in the repository of the SVN hosted by Department of Computer Engineering, METU resulting in access to all members of the team adding, updating source files and committing afterwards. All of the implementation will be done in Java programming language if signal processing can be implemented in Java, if not, we can use Matlab for signal processing.

3.1.2. Data

Data consists of phrases and icons. All these data kept in database. Phrases are text data to convert to voice and icons are image data to show feelings. In addition to these log data that catch in the last module shows error messages.

3.1.3. Documentation

There are many documents about project to make it understandable. All of them are available at our website. All documents written so far include:

- Project Proposal
- Software Requirements Specifications
- Initial Design Report
- Detailed Design Report
- Configuration Management Plan
- Weekly Reports

3.2. Configuration Management and Control

If there will be any changes, following points should be stated clearly.

- The reason of the possible change
- The parts of the system that will be affected from this change
- Which parts of the codes must be changed

If CCT approves it, requested change should be handled by corresponding team members according to affected modules. Then, there will be tests to make sure that whether the changes are applied or not. If the new design passes the test, changes will be reflected; however, if anything undesirable occurs, the old version would still be online at SVN.

3.2.1. System Change Requests (SCR)

Minor SCRs can be handled by SVN. Firstly these changes will be discussed by group members. Major SCRs are controlled by Trac system. SCRs consist of:

- Team member name
- Description
- Date
- Deadline
- Related Module(s)
- Priority

- Version

When any team member reported a System Change Request, Trac system opens a ticket and it can be seen by every member.

3.2.2. System Change Evaluation

The discussions about evaluation of SCR are maintained on tickets in the Trac system. In addition to that, most SCR's will be discussed in team meetings and during the daily communications of the team members. In each evaluation or comment, all members can emphasize their opinions freely and evaluation will be based on these opinions.

3.2.3. Software Change Implementation

If SCR is approved after an evaluation, implementation part of that request is assigned to the group member(s) that has the responsibility of the corresponding module(s). After the implementation the source code tests despite the possibility of any error. If there is no error, the change will be reflected. Otherwise, the members responsible for the implementation of the related change are informed and either they review their implementation or another member takes over the code segments to debug the implementation. During each step, every group member will be informed about the change.

3.3. Configuration Status Accounting

Configuration items are introduced in the previous sections. To make easily control, information about related configuration items are needed to be stored. Keeping the track of development process is necessary and in order to achieve this important goal, different ways will be used to express those changes and updates simultaneously. Thanks to that, both the project members and the other people who are following our project can be communicated.

The information will consist configuration identifications, change the information of request and information about the details of the implementation. While approaching to the end, comments of the SVN commit and meeting reports will guide us through the common changes. Also, versioning of the project will be controlled by comments and defining the use of updates. Finally, information about the development process of the project and the problems and their solutions will be published by the web page of the team.

3.4. Auditing

When the changes are made, auditing will be done by all members of the team. Auditing of the code will be done weekly by using appropriate test methods. Besides, all team members should check his/her part of the code to test there is no error. Each member can commit that code to SVN after self-checking. All team members must be sure about his/her code correctness, before commit it to SVN. By checking this and committing the code after this test, team can be sure that the project that is kept in the SVN can be compiled and working correctly. Project schedule should be checked and updated regularly in order to obey the timing that is planned.

4. Project Schedules and CM Milestone

4.1. Project Schedule

The living schedule which consists of the whole milestones and the tasks that have been planned to be completed is available at the HANDE project team's web page. The dates of milestones are arranged so that all of the team members can do their job successfully by using the time allowed for them efficiently. The deadline dates planned for the milestones can be seen in the following section.

4.2. CM Milestones

First Development Snapshot Demo:

The necessary modifications are being made on the project version which is presented on the first demo.The deadline of the first development snapshot demo is arranged as **29.03.2012.**

Pre-First Release Prototype:

The deadline of the pre-first release prototype is arranged as **10.05.2012.**

CONFIGURATION MANAGEMENT (CM) PLAN
First Release:

As it appears from its name, the first official release of the AAC for Android system will be published and all of the modules are planned to be finished in this milestone.The deadline of the first release is organized as **17.05.2012.**

Final Release:

Final release milestone will be the official conclusion of the AAC for android project of HANDE. The missing parts of First Release milestones, if any, are planned to be completed till the final release. The deadline regulated for the final release is **7.06.2012.**

5. PROJECT RESOURCES

The tools used in the configuration management process can be seen on the list below:

ECLIPSE

MOTODEV
SVN
Trac
HANDE project team's web page

The resources which we use while developing the project are specified above, and we also benefit from documentations which prepared by the members of the HANDE team. The documentations includes whole reports, living schedule etc. cannot be disregarded.

6. PLAN OPTIMIZATION

The CM report is very friendly for guiding to HANDE team members so as to follow the rules of implementing code in the implementation process of the AAC for Android project. Work plan is made between the members of HANDE and strictly disciplined in this report, especially to the deadlines of the milestones; the optimization of the plan will be on highest degree. Some delays may occur on the milestones, fortunately living schedule and our weekly meetings make us balance the progress. Therefore, these delays can be easily managed and the optimization of the project plan will be obtained successfully.